

USACHPPM TODAY

Volume 5, No. 1

January 1998

A U.S. Army Center for Health Promotion and Preventive Medicine News Bulletin

Hearing Conservation Cost Savings

- **USACHPPM Wins Quality Award**
- **Bauer Receives Secretary of The Army Award**
- **International Standards Organization (ISO) 9001 Registration**
- **Medical Surveillance**
- **Support to Gulf War Illnesses**

& Much More



Readiness thru Health

USACHPPM TODAY

January 1998
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LET US KNOW

USACHPPM TODAY is published by the Public Affairs Office, U.S. Army Center for Health Promotion and Preventive Medicine. It is published quarterly and will keep you up-to-date on technical trends and what is happening at USACHPPM. Please make copies for your own contacts. If you were not mailed a personal copy and you want to be on the mailing list, have comments or questions concerning USACHPPM or any of its services, or wish to obtain any of the educational materials we have available, please contact us.

We receive many calls and comments from our readers on what they read - and what they would like to read. To those of you who have responded, "Thank You." Your input is important to us. To the rest of our readers, we would like to say "Let Us Know!" If you have specific questions or if there are any topics you would like to see covered, write or call us at:

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INSIDE THIS ISSUE

- 3 Commander, USACHPPM
Campaign Plan
- 4 Inside CHPPM
USACHPPM Wins Quality Award
Voice of the Employees (VOTE)
Improved Standardized Business Practices
Preventive Medicine Threat Assessment Team (PMTAT)
Support to Reserve Components
Customer Value Program
Formal Mentoring Program
The Oak Ridge Institute for Science and Education (ORISE) Program
Responding to Customers
Re-Engineering of Organizational Supply Function
- 5 CHPPM Personnel
Secretary of the Army Award
Master Consultants
- 6 Directorate of Laboratory Sciences
International Standards Organization (ISO)
9001 Registration
Sample Analysis Services Cycle Time Reduced
Business Process Re-Engineering
Installation Assistance Services
Contract Laboratory Quality System Standards
- 9 Directorate of Toxicology
Environmental Contamination/Clean-up
(Customer Support)
Toxicity of Thiodiglycol
Toxicological Studies
Laboratory Studies on TNB
- 10 Directorate of Health Promotion and Wellness
Worksite Wellness Program
Put Prevention into Practice (PPIP)
Children-Focus of World Aids Day
- 12 Directorate of Clinical Preventive Medicine
Hearing Conservation Cost Savings
Engineering Noise Control: The Doctrine and the Reality
Bosnia Fever Work-Up Protocol Card and Poster
Bosnia Redeployment Briefing Slides and Fact Sheets
Preventive Health Support to Bosnia
Vision Conservation Program
- 15 Directorate of Epidemiology & Disease Surveillance
Medical Surveillance
- 16 Directorate of Occupational Health Sciences
Composition (C-4) Explosive Taggant
Program Status Reporting System
Ergoeaser Computer Program
Ergonomic VDT Analysis Palm Pad Computer Program
Thermal Technology and Insect/Pest Control
Pesticide Used Reduction on DA Golf Courses
Artificial Blood Meal System
Supporting the World Health Organization (WHO)
Laser Safety Information Source
Occupational Health Management Information System (OHMIS)
Health Physics Initiatives
Nuclear/Chemical Field Survey Manual
Health Hazard Assessment of Army Materiel
Cost Avoidance Model Developed
- 21 Directorate of Environmental Health Engineering
Support to Gulf War Illnesses
Deployment Environmental Exposure Surveillance Program (DEESP)
Cost Savings/Avoidance to the Army
Support to Preventive Defense
Support to Army's Range XXI Initiative
Munitions Test Range Environmental Management
DA Environmental Compliance Assessment System (ECAS) Program
Support to MACOMs and Installations
U.S. Army Kwajalein Atoll (USAKA)
Installation Preventive Medicine Laboratories
Support to U.S. Forces Korea (USFK)
Support to Holston Army Ammunition Plant (HSAAP)
Health Risk Assessment and Risk Communication Support
New Training Course for DA/DOD Personnel
Support to OCONUS Facility Closures
Army Medical Treatment Facilities
Support to Deployed Personnel
Sampling Methods for Military-Unique Operations
Clean Air Act Requirements
Support to Policy Makers
Risk Management Plans
Support to United States Military Academy (USMA)
Emergency Planning and Community Right-to-Know Act (EPCRA)
DOD/Agency for Toxic Substances and Disease Registry (ATSDR)
- 28 Direct Support Activities (DSAs)
Polymerase Chain Reaction (PCR) Laboratory
Child Development Program Initiatives
Winter Pesticide Equipment Maintenance and Spring Calibration
Enhancing War Fighters' Readiness
U.S. Army Reserve Command (USARC)
PM External Training and Evaluation (EXEVAL) Package

Commander, USACHPPM

CAMPAIGN PLAN

by: BG Patrick D. Sculley

January is an ideal time to reevaluate past accomplishments and chart new paths for the upcoming year. This year the CHPPM is embarking on a bold new campaign plan to guide our future health services efforts. This campaign plan will better align preventive medicine and health promotion with the Department of Defense (DOD) vision and goals. It will position us to fully support expanding Military Health System (MHS) and Army Medical Department (AMEDD) missions.

The campaign plan encompasses four broad campaign plan objectives: (1) Preparing to meet future challenges of rapidly changing missions and resources; (2) Continuing to bring comprehensive public health surveillance to its full potential; (3) Demonstrating the effectiveness of health promotion and preventive medicine in managing health risk; and (4) Shaping health promotion and preventive medicine's role in international activities.

The first goal is to posture the CHPPM to face future challenges. The end of the Cold War ushered in radical changes in the international arena and signaled the beginning of a New World Order. Today's global environment is constantly evolving and, in order for organizations to survive in this era of uncertainty, they must be flexible and adaptable. Organizations, such as the CHPPM, must be prepared to meet the future challenges of rapidly changing missions and resources. The CHPPM has envisioned future scenarios and has focused both its manpower and fiscal resources to support these futures. Through education efforts, the command is also assisting other Army and DOD assets prepare for the future. The CHPPM seeks to integrate health promotion and preventive medicine lessons into the force protection curricula taught at all military schools, developing our young leaders and soldiers to recognize the critical role health plays and will play in our military and political strategies.

The second goal calls for continued efforts in public health surveillance. The CHPPM has made bold strides towards achieving comprehensive health surveillance; last June, Health Affairs named the CHPPM executive agent for the Defense Medical Surveillance System, a tri-service health surveillance effort with joint staffing. This system integrates data,

such as personal health histories, career assignments, hospitalizations and environmental exposures, to develop a comprehensive picture of health risks. Much of this data is currently stored on existing systems, such as the



Standard Ambulatory Data Record (SADR), the Navy and Air Force reportable disease databases, and death and disability reporting systems. Future efforts will focus on best merging these existing automated systems. Furthermore, the CHPPM plans to capitalize on and proliferate the use of Geographic Information System (GIS) technology. The health surveillance system coupled with GIS technology will provide combatant commanders with real-time health information on which to base key operational decisions. Health surveillance has never been more important to maintaining both the health of our service members as well as public confidence in the US military and the CHPPM will play a critical role.

The third goal is to demonstrate the effectiveness of preventive efforts. Preventive medicine has been a useful tool in managing and promoting the health of our service members, retirees, and beneficiaries. However, we must validate our preventive efforts by applying metrics to our health promotion and preventive medicine programs. With concrete statistical evidence to prove the positive impact of health promotion and preventive medicine efforts, line commanders will be convinced of the value of such programs and can act to influence health and prevent disease and injury among field soldiers. The Military Health System is crafting a common culture throughout the DOD which values health and wellness; demonstrating health and fiscal payoffs will be critical to maintaining and fostering a wellness focused culture.

(Continued to Page 31)

Inside CHPPM

USACHPPM WINS QUALITY AWARD



*Senate Productivity
Award - Senator
Barbara Mikulski
congratulates Stephen
Kistner, CHPPM's
Deputy for Technical
Services, on receiving
Maryland award*

The USACHPPM was the recipient of the 1997 Maryland Quality Award - Bronze. This award is part of the U.S. Senate Productivity Awards. Since 1984, U. S. Senators from all over the country have given special recognition to organizations in their jurisdiction that have demonstrated the highest level of quality in performance and service. The intent of the award is to spur competitiveness and the adoption of techniques for improving productivity and quality throughout Maryland and the nation.

The Senate Productivity Awards are based on the Malcolm Baldrige National Quality Award criteria. Organizations participating in the award process are required to submit application packages that include response to criteria in categories of leadership, strategic planning, customer and market focus, information and analysis, human resource development and management, process management and business results. The submitted application is reviewed by at least five trained Senate examiners, which gives the organization an outside, unbiased perspective of the various systems in the organization. Through conducting self-assessment which is an essential step in writing an award application, the award process has helped USACHPPM improve the way they manage their organization.

Award recipients are required to share information on their successful performance and quality strategies with other Maryland organizations. The principal mechanism for sharing information is the annual Maryland Excellence Conference which was held on 29 October 1997 at Martin's West in Baltimore, Maryland. The keynote speaker was Mr. Jim Perdue, Chairman of Perdue Foods, Inc.

The award was presented by U.S. Senators Paul Sarbanes and Barbara Mikulski. Mr. Stephen Kistner, Deputy for Technical Services, accepted the award.

VOICE OF THE EMPLOYEES (VOTE)

USACHPPM developed an Electronic-Mail Bulletin Board called Voice of the Employees (VOTE). The intent is to increase organizational effectiveness by allowing any worker to anonymously share their concerns, questions, suggestions/ideas, or frustrations with senior management. Senior management responds to the query within 5 working days posting on an electronic bulletin board with access by all employees. This program was developed to encourage employee involvement and gain insight into the culture of our organization. POC: Ms. Sara Parker, DSN 584-4737, 410-671-4737, or 1-800-222-9698.

IMPROVED STANDARDIZED BUSINESS PRACTICES

In an effort to channel its energy toward the customer, USACHPPM is in the second year of a new way of conducting business. The new concept is based on developing program documents which incorporate procedures to identify what work will be done, where, by whom, and at what cost. This procedure facilitates the identification and distribution of work between the Headquarters and its five subordinate commands located in the Continental U.S., Europe, and the Pacific. The process starts with program objectives which drive the development of a command operating budget estimate for all of the technical programs. The estimate is refined into a projected work plan as availability of resources are defined. Once the annual work plan is approved, work execution is decentralized to the maximum extent possible. Our methodology is focused on performance measurements which are evaluated during quarterly management reviews. This new system provides empowerment balanced with accountability and encourages communication at all levels. POC: Mr. Stephen Kistner, DSN 584-2307, 410-671-2307, or 1-800-222-9698.

PREVENTIVE MEDICINE THREAT ASSESSMENT TEAM (PMTAT)

Formed as a result of The Army Surgeon General's Specialty Response Team initiative, the PMTAT is a small (five person) deployable team trained in rapid assessment of the threat to deployed forces in the areas of toxic chemical exposure, radiation, communicable diseases, and environmental health. The team is trained in the use of technologically sophisticated equipment and in the rapid interpretation of health threat data in order to provide a near real-time risk assessment to commanders who must make decisions regarding the disposition of their troops. The team is also trained to respond to domestic terrorism or industrial accident scenarios involving chemical or radiation-producing devices,

providing the same threat analysis information to civil authorities. POC: LTC William Mahr, DSN 584-5490, 410-612-5490, or 1-800-222-9698.

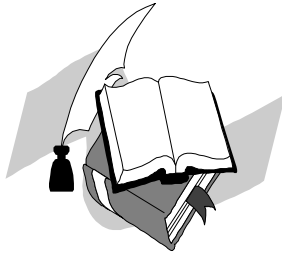
SUPPORT TO RESERVE COMPONENTS

USACHPPM has increased its emphasis on providing support to the Reserve Components (RC) (Army Reserve and National Guard) by preparing and providing extensive health threat briefing packages and booklets to deploying RC forces and providing preventive medicine personnel to supply on-site support to those forces. The most recent examples of such support include an agreement to provide health threat materials and briefing packages to 6000 Oregon National Guardsmen deploying to the Joint Readiness Training Center (Fort Polk, LA) in the summer of 1998, and on-site support to Reserve engineers throughout a 5-month long road-building project in El Salvador, January - May 1998. POC: LTC Robert G. Jordan, DSN 584-7003, 410-612-7003, or 1-800-222-9698.

CUSTOMER VALUE PROGRAM

Early in 1997, USACHPPM entered into a Customer Value Consortium with the University of Maryland, Allied Signal Corporation, and the U.S. Coast Guard, Headquarters, Washington, D.C. The purpose of this consortium is to lead organizations in the application of strategic management for customer value. This system identifies what matters to the customer, and provides a framework to proactively deliver what matters. We selected our Water Supply Management Program as the pilot. We have developed a customer value survey for this program and are in the process of analyzing survey results. We will then focus on identifying strategic issues that surface as a result of the data interpretation. Based on these significant results, we will deploy this concept to all of our programs. POC: Ms. Sara Parker, DSN 584-4737, 410-671-4737, or 1-800-222-9698.

FORMAL MENTORING PROGRAM



USACHPPM has established a formal mentoring program. This program offers a mechanism for developing the professional and technical potential of both military and civilian personnel. Education and training initiatives, including

those that involve developmental assignments, are part of this program. It also provides the practical knowledge that cannot be learned in school. We currently have 22 mentoring partnerships with 44 participants. Relationships are fluid and flexible in order for participants to achieve their goals. The mentor is groomed to take on the roles of counselor, teacher, guide, challenger, and role model for success. This program provides a cost effective means for our personnel to improve present job skills, abilities, and morale. POC: Ms. Dianne Cottrell, DSN 584-1038, 410-671-1038, or 1-800-222-9698.

THE OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION (ORISE) PROGRAM

The ORISE Program has become a major resource. It is a cooperative effort between USACHPPM and Oak Ridge Associated Universities, a consortium of 88 colleges and universities around the country. This Program allows us to bring recent graduates, faculty, and staff members to participate in a broad range of applied research and practical applications of the principles of science and engineering. The participants benefit from experience gained in applying the latest technologies learned in the classroom to solve real-world problems. USACHPPM gains technical resources to augment the number of scientific investigations. Because of the high quality of technical expertise exhibited by ORISE research participants, 16 participants have been hired as permanent civil service employees. Based on current projections, it appears that the total number of ORISE participants supporting these technical initiatives will probably level out at just over 100 personnel. POC: Mr. Stephen Kistner, DSN 584-2307, 410-671-2307, or 1-800-222-2307.

RESPONDING TO CUSTOMERS

One of the underlying reasons for an unprecedented growth in our service requests has been the ability to keep pace with state-of-the-art technical evaluations in numerous scientific disciplines. Over the past 3 years, USACHPPM has developed new market products and services in the following areas:

- Deployment Medical Surveillance Systems
- Health Risk Communications
- Epidemiology
- Medical Surveillance
- Behavioral Health
- Fitness and Nutrition
- Evaluation and Outcomes
- Environmental Health Effects Research
- Ergonomics
- Polymerase Chain Reaction Analysis

POC: Mr. Stephen Kistner, DSN 584-2307, 410-671-2307, or 1-800-222-9698.

RE-ENGINEERING OF ORGANIZATIONAL SUPPLY FUNCTION

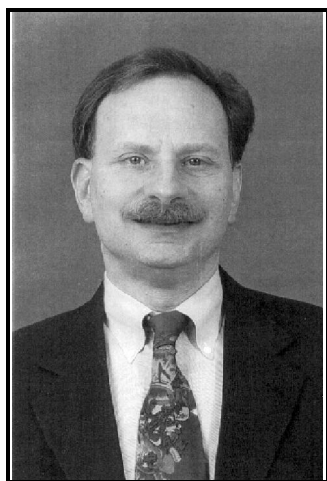
USACHPPM has re-engineered several processes within our organizational supply function. Through our reinvention laboratory, we received the authority to waive existing regulations on supply accountability. This approved waiver removes non-medical, non-maintenance significant property items under \$2,500 from the formal property book accountability system. The concept reduces work hours spent tracking lower dollar items with minimal loss probability (i.e., office furniture). The program is a dramatic success, reducing property book items by almost 50 percent and saving nearly 3,000 work hours and \$121,000 annually.

In addition, we sought improvements in VISA card and procurement processes. We worked with APG leadership and obtained significant procedural relief in the use of a VISA card for supply purchases. We increased VISA buys from 75 - 95 percent of total purchases. This provides the requester with needed supplies and materials within 2 - 5 days of requisition date as compared to 90 or more days under the previous system. POC: Mr. Paul Wilson, DSN 584-2630, 410-671-2630, or 1-800-222-9698.

CHPPM Personnel

SECRETARY OF THE ARMY AWARD

Mr. John W. Bauer received the award of Exceptional Civilian Service, the highest honorary award granted by the Secretary of the Army to Army civilian employees. Bauer is the Program Manager, Ground Water and Solid Waste Program.



His rare combination of scientific skills and management acumen resulted in the superlative implementation of the Army's national-wide environmental restoration program. He is a key team member of the Army's Installation Restoration Program and The Surgeon General's principal consultant on the impact of ground-water contamination on human health and the environment.

"Bauer is a strong supporter of the DOD's concepts of international environmental security and preventive defense", said his nominator, LTC Phull. As a result of Mr. Bauer's outstanding and pioneering work in Russia and Belarus, the Center is currently working closely with the Ukrainian Armed Forces in assessing environmental and occupational health conditions related to the dismantling of nuclear facilities, nuclear weapons storage areas, and past military activities, and identifying corrective actions to ensure a safe and healthful workplace and environment.

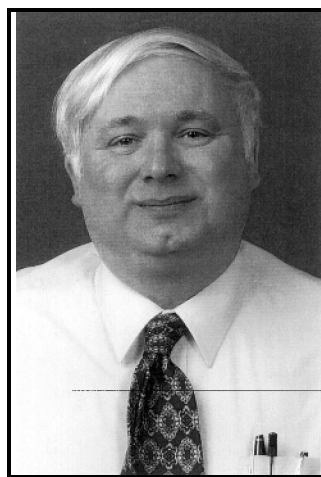
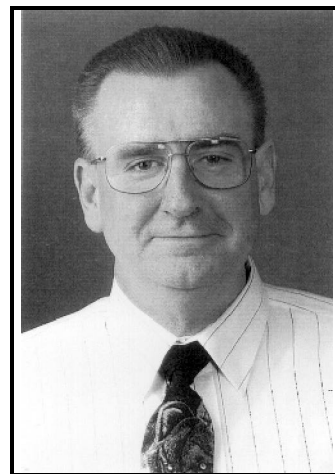
The work performed by Bauer's program results in significant savings to the Army and the DOD. Over the past two years alone, such savings are estimated at approximately \$25 million.

Bauer has a Bachelor of Science in Geological Sciences and a Master of Science in Hydrogeology from Penn State University. He is a registered professional geologist in the state of Delaware and a certified professional geological scientist with the American Institute of Professional Geologists. The award was presented at the annual Secretary of the Army Awards Ceremony at the Pentagon on November 6.

MASTER CONSULTANTS

Mr. William A. Russell, Jr. and Mr. David P. Alberth were awarded the esteemed title of master consultant. The Master Consultant program was established to designate employees who have been recognized within the Department of the Army, the nation, and in some cases, internationally as outstanding scientific and technical professionals.

Russell, Environmental Protection Specialist, Environmental Noise Program, has made significant career contributions in the highly specialized area of environmental noise. He is recognized throughout the Army for his experience and unique ability to assess the impact of military noise (i.e. weapons, aircraft) on wildlife and domestic animals; to apply his expert knowledge and innovation to complex environmental noise technology and methods; and to solve challenging environmental noise problems.



Alberth, Health Physicist, Medical Health Physics Program, is recognized for his sustained high-level contributions and personal impact on the success of the Army Health Physics Program. He is often requested by name to conduct investigations involving resolution of high-profile and sensitive radiological health issues. He has

demonstrated expertise in medical physics, radiation protection, and radiological health risk assessment. He is recognized as an Army expert on depleted uranium.

Directorate of Laboratory Sciences

INTERNATIONAL STANDARDS ORGANIZATION (ISO) 9001 REGISTRATION

The Directorate of Laboratory Sciences, which develops and performs analytical methods for measuring environmental and occupational health chemicals for preventive medicine (PM) programs, has established a quality system and procedures in alignment with ISO requirements. The laboratory received ISO 9001 registration in August 1997. This is significant because it adds an international recognition of quality to our extensive list of national accreditations/ certifications that includes:

- ▶ 40 State certifications
- ▶ American Association for Laboratory Accreditation (since 1984)
- ▶ American Industrial Hygiene Association (1974)
- ▶ National Lead Laboratory Accreditation Program (1995)
- ▶ National Voluntary Laboratory Accreditation Program (asbestos, 1989)
- ▶ Clinical Laboratory Improvement Program (1994)

It is also significant in that we are the first organization in the U.S. Army Medical Command, the first PM laboratory in DOD, and among a handful of PM laboratories nationwide that hold ISO 9001 registration. POC: Ms. Gaffney, DSN 584-8399.

SAMPLE ANALYSIS SERVICES CYCLE TIME REDUCED

Laboratory sample analysis services were improved as the result of an initiative to focus improvement efforts on cycle time and on-time performance. Cycle time was reduced by 26 percent and on-time performance was increased 38 percent within a 6-month period. POC: LTC Douglas Rinehart, DSN 584-3639, 410-671-3639, or 1-800-222-9698.

BUSINESS PROCESS RE-ENGINEERING

A business process re-engineering of a multimillion dollar process (sample data) is underway with the objectives of reducing cycle time, lowering costs, and improving quality. This will be done by streamlining processes, minimizing the need for human interaction, and maximizing the effective use of automated techniques. The 2-year project began 1 October 1997. POC: Ms. Sacilotto, DSN 584-5050, or 1-800-222-9698.

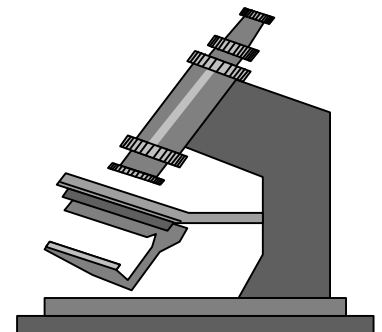
INSTALLATION ASSISTANCE SERVICES

The Directorate will soon offer assistance to installations requiring environmental and occupational health laboratory analyses. This will improve the quality of work

received from laboratories, help control costs through consolidated procurement, and avoid project delays and rework caused by bad data. POC: LTC Douglas Rinehart, DSN 584-3639, 410-671-3639, or 1-800-222-9698.

CONTRACT LABORATORY QUALITY SYSTEM STANDARDS

USACHPPM is representing the U.S. Army Medical Command in a DOD Workgroup formed by the Deputy Under Secretary of Defense (Environmental Security) to share information and develop standard procedures for obtaining and using environmental data. All key service components are represented on the Workgroup which is chaired by the Navy. Current initiatives will establish minimum contract laboratory quality system standards as well as techniques for ensuring data quality and avoiding/detecting poor contractor performance. POC: LTC Douglas Rinehart, DSN 584-3639, 410-671-3639, or 1-800-222-9698.



Directorate of Toxicology

ENVIRONMENTAL CONTAMINATION/CLEAN-UP (CUSTOMER SUPPORT)

regulators. POC: Dr. Glenn Leach, DSN 584-3980, 410-671-3980, or 1-800-222-9698.

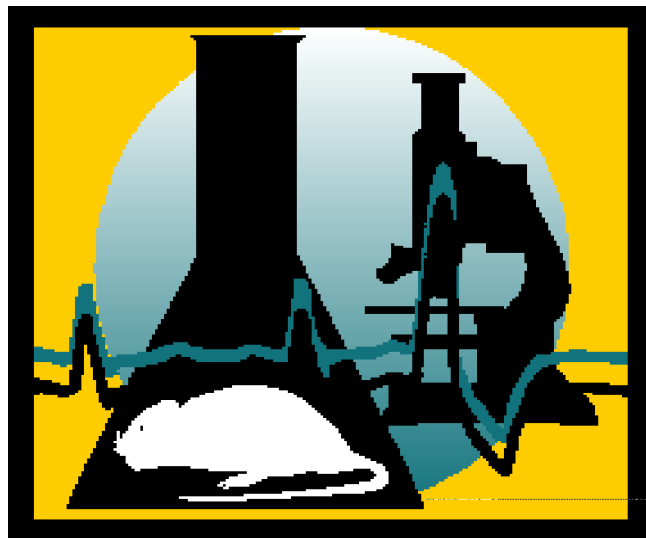
The Toxicity Evaluation Program has been asked by the U.S. Army Environmental Center to initiate an extensive literature review. The review is on tungsten metal and several tungsten mixtures to recommend what toxicology studies would be required to approve these materials as replacements for the lead and depleted uranium currently used in weapons systems. This initiative could assist the Army in reducing environmental pollution incidental to military training and other military operations. POC: Mr. Leroy Metker, DSN 584-3980, 410-671-3980, or 1-800-222-9698.

TOXICITY OF THIODIGLYCOL

The Toxicity Evaluation Program is currently evaluating the subchronic oral toxicity of thiodiglycol. Thiodiglycol is a hydrolysis product of sulfur mustard and is found as an environmental contaminant at several military installations. The results of the laboratory studies will provide a reference dose to aid in the practical clean-up of that contamination. POC: Mr. Richard Angerhofer, DSN 584-3980, 410-671-3980, or 1-800-222-9698.

TOXICOLOGICAL STUDIES

Continuing toxicological studies of environmental contaminants found at Army installations using both mammals and non-mammalian animal models are underway. Results of these studies will be used to estimate the transport and uptake of these materials from the environment and to develop risk based clean up levels for the environmental contaminants. This information will be consolidated into a database for the Internet and will provide ready access to installation personnel as well as state and Federal



LABORATORY STUDIES ON TNB

The Health Effects Research Program completed laboratory studies on the environmental contaminant 1,3-trinitrobenzene (TNB). TNB is a degradation product of TNT and is found at old Army ammunition plants as well as active ranges. The toxicology studies performed over a 3-year period provided the empirical data to allow regulators to raise clean up levels for TNB up to 600 fold. This should reduce clean up costs significantly. At one site alone this information resulted in a cost savings of approximately \$2M. POC: Dr. Glenn Leach, DSN 584-2088, 410-671-3980, or 1-800-222-9698.

Directorate of Health Promotion and Wellness

This Directorate has provided the following deliverables directed toward keeping our force healthy and ready:.

Put Prevention into Practice (PPIP) - focused on improving the delivery of clinical preventive services across the military healthcare system.

Targeting Stress Exportable Training Package - fielded to provide soldiers and leaders with a self-contained stress management training package.

Performance Power Nutrition Package - a comprehensive sports nutrition training program designed by the U.S. Army Research Institute of Environmental Medicine specifically for the military.

Worksite Wellness - currently conducting a model program geared primarily for increasing civilian fitness.

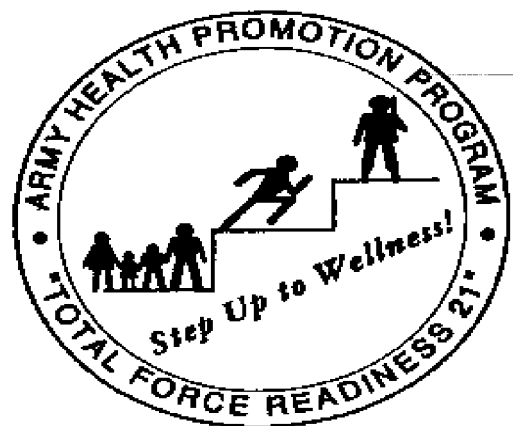
Other items of significant value to the field have been Boscards, playing cards with health promotion messages on them, geared to troops in Bosnia; a Wellness Calendar which highlights health focus themes for each month of the year; and Suicide Helpcards, wallet sized, laminated cards for soldiers and leaders which specify the warning signs of suicide and suggested ways to provide aid. The Directorate has also fielded numerous educational brochures addressing suicide, tobacco cessation, and stress reduction. POC: Chaplain (LTC) James Buckner, DSN 584-7001, 410-612-7001, or 1-800-222-9698.

WORKSITE WELLNESS PROGRAM

The goal of the Targeting Health Program is to enhance employee quality of life by fostering healthy lifestyles, promoting exportable civilian physical fitness programs and healthy work environments, and improving morale. We have partnered with the U.S. Army Physical Fitness School to develop a Civilian Physical Fitness Exportable Training Package. POC: MAJ Mary Jo Laurin, DSN 584-7008, 410-612-7008, or 1-800-222-9698.

PUT PREVENTION INTO PRACTICE (PPIP)

PPIP is a national implementation initiative developed to help achieve the health promotion and disease prevention objectives for the nation as established in Healthy People 2000. The Army's goal is to improve the delivery of clinical preventive services by providing tools and strategies for all patient encounters. This project involves development and execution of the evaluation component of PPIP implementation at the medical treatment facilities. POC: LTC Cathy Bonnefil, DSN 584-7151, 410-612-7151, or 1-800-222-9698.



Finally!! Good news regarding the war against Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). According to the Centers for Disease Control, new AIDS

cases decreased by 4100 from 1995 to 1996. Also, during the same time frame, deaths attributed to AIDS decreased for the first time by 26 percent. Wonderful new drugs now on the market can potentially change the prognosis of AIDS from a death sentence to a chronic, but manageable disease.

To maintain a special focus about this alarming problem, the American Association for World Health (AAWH), which is the World AIDS Day sponsor in the United States, has established the theme "Give Children Hope in a World with AIDS" for this year's observance. Also, the United Nations Conventions on the Rights of the Child has published guidelines for governments to use in order to protect children from infection and discrimination.

Children's access to HIV/AIDS prevention education and information continues to be the key component in preparing them to cope positively with real-life situations. HIV is a sexually transmitted disease (STD). Most teenagers want to know more about STDs in general, but the infection caused by HIV is obviously one of the STDs of greatest current importance. School curriculum materials have been developed in many areas for both teacher and students in grades 6 to 12. Hopefully, this will be one way to prompt STD and HIV education and awareness. The National AIDS Information Hotline (1-800-342-AIDS) offers a 24-hour service 7 days a week to respond to any questions that a parent or child may have about HIV infection or AIDS. These telephone hotline specialists can also refer individuals to health professionals who work with AIDS issues.

Free educational brochures may be obtained by

CHILDREN- FOCUS OF WORLD AIDS DAY

Editor's Note: World AIDS Day was December 1; the following article is printed for your information.

calling the National AIDS Information Clearinghouse at 1-800-458- 5231. An example of relevant information is the "AIDS Prevention Guide", which has tips for introducing

and discussing the topic with middle school age and high school students. Another good fact sheet is entitled, "What are Adolescents' HIV Prevention Needs?"

Information and support regarding HIV and AIDS is also available locally to military personnel at installations. HIV and STD education continues to be an ongoing effort in the Army. Any one with questions about HIV/AIDS prevention and education efforts on military installations can call the local Preventive Medicine Service or the Army Community Health Nurse.

The good news about AIDS this year should not make us complacent. New medical advances have contributed to a lack of urgency among the public. The new optimism may camouflage the fact that over 200 million people (which includes over 800 thousand children) all over the world are now living with AIDS. For most of them, availability of the new AIDS drugs is a remote possibility. Furthermore, by the year 2000, the World Health Organization projects that 10 to 15 million children will be orphaned due to AIDS. These children will not only suffer from economic and emotional deprivation, but also from the social stigma associated with an AIDS-tainted family.

Although children are the focus of the World AIDS Day this year, and undeniable strides have been made to prevent and treat AIDS, unfortunately these advances are not easily available to all who need them. We must continue to push prevention and education for our future-- the children of today. POC: LTC Cathy Bonnefil, DSN 584-7151, 410-612-7151, or 1-800-222-9698.

Directorate of Clinical Preventive Medicine

HEARING CONSERVATION COST SAVINGS



Tri-service audiologists' cooperative effort leads to significant cost savings

Re-engineering of DOD's Hearing Conservation Program requirements, accomplished under the auspices of the DOD Office of Environmental Security, is starting to show benefits in cost savings.

A tri-service team of audiologists at USACHPPM, working with the Defense Occupational Health Readiness System Office, provided technical oversight for a \$2,091,749 tri-service purchase of 740 microprocessor audiometers. Funded by the DOD Health Affairs, U.S. Army Medical Command, and the Office of the Air Force Surgeon General, a 61

percent cost savings of \$3,293,591 was realized over commercial purchases that would have totaled \$5,385,340.

Savings broken out by individual services were \$1,486,754 (Army), \$1,056,403 (Navy), and \$750,434 (Air Force). Additional significance to these cost savings is the fact that the most technically superior audiometer was selected. The audiometers will be placed in hearing conservation medical clinics, hearing conservation centers, mobile test vehicles, and aboard ships all over the world. Expected delivery is in 1998. POC: Dr. Doug Ohlin, DSN 584-3797, 410-671-3797, or 1-800-222-9698.

ENGINEERING NOISE CONTROL: THE DOCTRINE AND THE REALITY

Effective hearing conservation programs are the result of a coordinated application of the following: Noise Hazard Evaluation and Posting, Engineering Controls, Hearing Protective Devices, Monitoring Audiometry, Health Education, Enforcement, and Program Evaluation.

Program focus, however, will be a function of the professional specializing in a particular program element(s). It is the old story of the five blind men and the elephant. It depends on who you talk to, i.e., the industrial

hygienist, audiologist, occupational health physician, or nurse.

The reduction of hazardous noise through engineering controls is clearly the most desirable approach since controls could eliminate the need for all other program elements. Unfortunately, hearing conservation programs that are dominated by a focus on measuring the noise and only "advocating" engineering controls are also characteristic of significant hearing loss and associated high disability/compensation expenditures.^{1,2} If engineering controls aren't technically and/or economically feasible, simply wishing for them is a blueprint for disaster.

The doctrine that engineering noise controls must be initiated first and that personal hearing protectors are temporary measures is sound policy (no pun intended). However, sound policy can be abused and perverted when professional provincialism limits the implementation of other program elements. Advocating or wishing for noise controls is often done at the expense of fitting hearing protectors properly, monitoring audiometry, health education, and program evaluation.

The origins of engineering noise control doctrine at the



expense of other means to prevent hearing loss can be traced, in part, to the strong influence of labor unions in the early days of the Occupational Safety and Health Administration (OSHA). Labor unions characteristically take an extreme stance for the sake of a bargaining position. Although a legitimate strategy for unions, health care professionals, for the sake of their credibility and the worker's health, are obligated to proceed much more pragmatically.

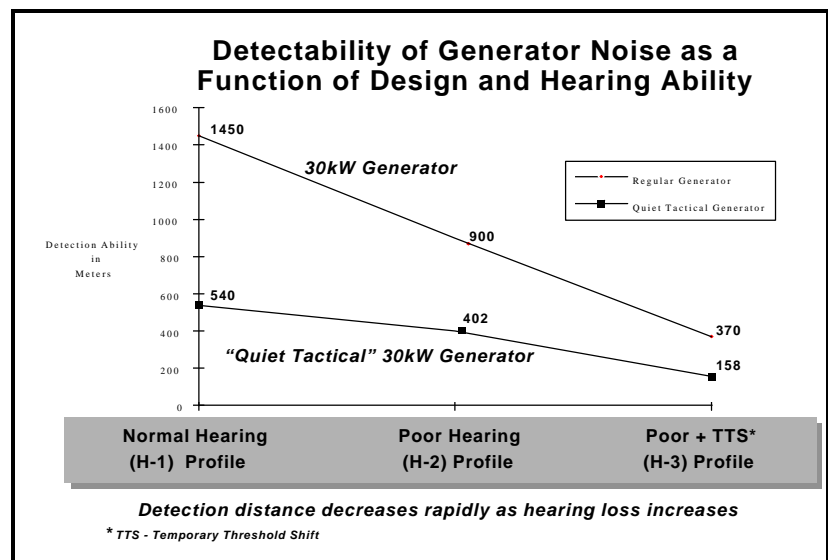
The Army's Hearing Conservation Program has reported a 24 percent increase in H-1 hearing profiles (acceptable hearing) among enlisted combat arms personnel from 1974 - 1994.³ Over \$800 million in cost savings and cost avoidance can be projected from training costs saved and comparisons to Navy and Marine hearing loss compensation and disability expenditures.¹⁻³ It is no coincidence that military audiologists in the Army Hearing Conservation Program have, for the last 25 years, focused on the exposed individual, not the hazard.

This focus notwithstanding, for 15 years the Hearing Conservation Program at USACHPPM has assisted our Health Hazard Assessment Office in attempts to identify and recommend engineering and administrative noise controls in military systems and hardware in various stages of development. Over this period, only seven instances can be cited of successful mitigation or elimination of noise hazards in fielded systems. In most instances we were obligated to recommendations on types of hearing protection and administrative controls, i.e., limiting the number of rounds fired or duration of exposure.

From this paucity of success stories, the Tactically Quiet Generator (TQG) is the standout for effective noise reduction through engineering controls. The Belvoir Research Development and Engineering Center, through a contractor, used predominately commercial components to develop a whole new family of generators from 3 to 60 kilowatts. Generators that could be heard from almost a mile away are now silent down to 500 meters. The auditory or tactical advantages of the

TQG design as well as the advantages of acute hearing are dramatically illustrated in the graph below. There are other spin-offs such as reduced infrared (IR) signature. Other advantages of the TQG, how to order them by specific military service, and detailed specifications can be accessed on the World Wide Web at <http://www.pmmep.org>.

Noise abatement and acoustical engineering consultations are available through the USACHPPM



hearing conservation program office. POC: Dr. Doug Ohlin, DSN 584-3797, 410-671-3797, or 1-800-222-9698.

¹Doug Ohlin, "U.S. Army Hearing Conservation Program Yields Cost Avoidance from Reduced Veterans Hearing Loss Disability," USACHPPM Today, Vol 2, No. 2 (July 1995).

²Doug Ohlin, "Hearing Conservation - Promoting Health, Readiness and Saving Dollars", Army Health Connection, Vol 3, Issue 3, Summer 1997.

³Doug Ohlin, "Reduced Training Costs Through Reduced Hearing Loss in the Enlisted Combat Arms", USACHPPM Today, Vol 3, No. 1 (January 1996).

BOSNIA FEVER WORK-UP PROTOCOL CARD AND POSTER

The Disease and Injury Control Program was tasked by DOD/Health Affairs to create a Bosnia Fever Work-Up Protocol Card so that febrile patients with potentially life-threatening infectious diseases could be identified rapidly and quickly evacuated for more definitive care. In collaboration with Walter Reed Army Institute of Research and the U.S. European Command, the card and poster were created and distributed to physicians, nurses, and other health care providers in the theater of operations. This effort resulted in rapid and effective identification and treatment of any potentially life threatening illness for our troops in Bosnia. POC: MAJ Roberto Nang, DSN 584-2714, 410-671-2714, or 1-800-222-9698.

BOSNIA REDEPLOYMENT BRIEFING SLIDES AND FACT SHEETS

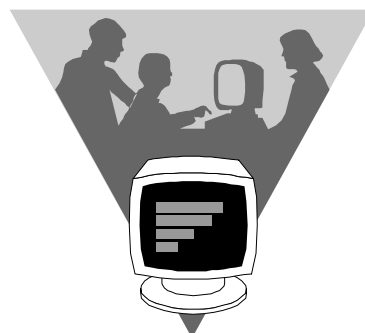
The Disease and Injury Control Program created the redeployment briefing slides and fact sheets given to soldiers redeploying from Bosnia. At the end of each soldier's deployment to Bosnia, they are given redeployment medical briefings educating them about possible diseases that they may have been exposed to while in Bosnia. They are educated about these diseases, the early symptoms, and the need to report to a health care provider about their stay in Bosnia when being evaluated for symptoms they may be experiencing. POC: MAJ Roberto Nang, DSN 584-2714, 410-671-2714, or 1-800-222-9698.

PREVENTIVE HEALTH SUPPORT TO BOSNIA

The Disease and Injury Control, and Entomology Programs designed, refined and fielded information cards to prevent Hantaviral and Tick-Borne diseases for soldiers in Bosnia. The Disease and Injury Control Program and Field Preventive Medicine created trifold pamphlets, "A Soldier's Guide to Staying Healthy in Bosnia" and "A Leader's Guide to Staying Healthy in Bosnia" to train the individual soldier and the soldiers' leaders how to maintain their health during deployment to Bosnia. POC: MAJ Roberto Nang, DSN 584-2714, 410-671-2714, or 1-800-222-9698.

VISION CONSERVATION PROGRAM

The Vision Conservation and Readiness Office published the pamphlet "Questions and Answers: Video Display Terminals". An initial 3,500 copies will be distributed to Army, Navy and Air Force Optometry Clinics; Ergonomic Clinics; Safety Offices; Occupational Health Clinics; Physical Therapy Clinics; Occupational Therapy Clinics; and Information Management Offices. The matrixing within our organization and our tri-service components enabled our ability to rapidly and effectively respond in this arena. This should save the DOD dollars and aid in alleviation of worker discomfort. POC: LTC David Hsieh, DSN 584-2714, 410-671-2714, or 1-800-222-9698.



Directorate of Epidemiology & Disease Surveillance

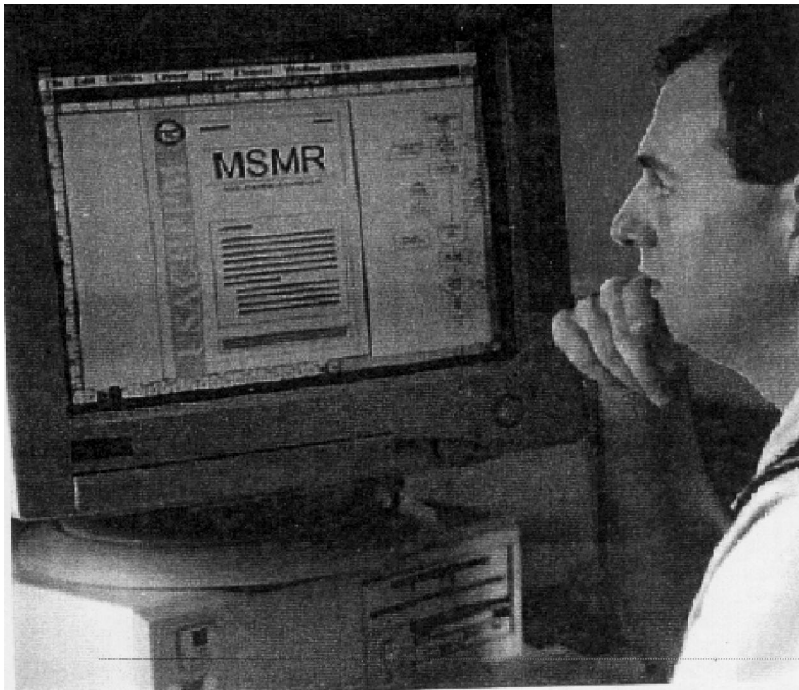
MEDICAL SURVEILLANCE

The Army Medical Surveillance Activity (AMSA), established in 1994, maintains a database that for the first time allows DOD to track the health of military populations and personnel in real-time, before, during, and after deployments. The AMSA also contains data on pre- and post-deployment health assessments for Operation Joint Endeavor, reportable diseases Army-wide, health risk appraisals, and other health information. All health data can be rapidly linked with Army and other service population data in a state-of-the-art relational database. The easy accessibility of health and population data allows the continuous tracking of rates and trends of health events over time in deployed and non-deployed military populations.

The ready availability of these data permits:

- ▶ The early detection of outbreaks or epidemics of disease
- ▶ The identification of the most important health problems confronting the Army and the other services.
- ▶ The detection of populations or units most at risk of disease and injury
- ▶ Prioritization of "targets" for prevention and research
- ▶ Monitoring of the effectiveness of prevention strategies

The Assistant Secretary of Defense for Health Affairs has tasked USACHPPM to migrate the AMSA into a tri-service system. This new DOD Medical Surveillance System (DMSS) will provide an important piece of the foundation for force protection and disease prevention for the military services in the future. POC: COL Bruce Jones/LTC Mark Rubertone, DSN 584-4655, 410-671-4655, or 1-800-222-9698.



LTC Mark Rubertone disseminates current data through the Medical Surveillance Monthly Report (MSMR).

Directorate of Occupational Health Sciences

COMPOSITION (C-4) EXPLOSIVE TAGGANT

After the December 1988 explosion of an airliner over Lockerbie, Scotland, 40 nations signed a convention agreeing to chemically tag plastic explosive so that it could be detected by electronic analytical equipment or sniffers. Among those 40 nations were the major plastic explosive manufacturing nations, including the U.S. The U.S. Army is responsible for all conventional explosives production for DOD and thus is responsible for tagging all C-4 produced after January 1994. The successful introduction of tags into the explosive production process was accompanied by concerns between health professionals and the public regarding health effects from exposure to such products.

The Industrial Hygiene Field Services Program provided technical support to the U.S. Army Armament Research, Development and Engineering Center (ARDEC) project to assess worker exposure to 2,3-dimethyl-2,3-dinitrobutane (DMDNB) or taggant. We developed sampling and analytical methods to measure airborne concentrations of DMDNB, since no such methods existed. We assessed worker exposure to DMDNB during manufacturing and storage operations of Composition (C-4) explosive taggant. Worker exposure during storage operations was determined to be below Army exposure standards. Worker exposure during manufacturing operations was initially in excess of Army exposure standards. Our recommended ventilation system modifications reduced worker exposure to acceptable levels allowing the manufacturing process to continue, allaying the concerns of workers, and ensuring a safe and healthful workplace. We continue to assist ARDEC in assessing and controlling potential exposures to taggant material as required. POC: Mr. Stephan Graham, DSN 584-2559, 410-671-2559, or 1-800-222-9698.

PROGRAM STATUS REPORTING SYSTEM

The Army Industrial Hygiene Installation Status Reporting System (IHISR) is an innovative approach to determine and monitor resource needs, program effectiveness, and return on investment at both an individual and corporate level. The IHISR annually measures indicators present in installation occupational health/industrial hygiene programs. The resulting information on program workload, accomplishments, and trends is used for many purposes. We can target training initiatives, define policy, distribute resources, and determine the global impact of industrial hygiene programs on workers' compensation costs. POC: Ms. Sandra Monk, DSN 584-2439, 410-671-2439, or 1-800-222-9698.

ERGOEASER COMPUTER PROGRAM

The Ergonomics Program partnered with the U.S. Air Force School of Aerospace Medicine and the Department of Energy in the development of a computer-based training and ergonomics assessment program. This public domain program was produced in CD-ROM format and distributed to all Army installations and other DOD service facilities. This program provides critical employee and supervisor ergonomics training and offers analytic tools for use by preventive medicine and safety professionals in their evaluation and control of ergonomic stressors in the workplace. The program also offers workstation redesign alternatives for identified problems and produces a summary report. It is comparable to commercially produced computer-based training and ergonomic assessment programs at a fraction of the cost. Customer feedback has been very enthusiastic. POC: LTC Mary Lopez, DSN 584-3928, 410-671-3928, or 1-800-2229-9698.

ERGONOMIC VDT ANALYSIS PALM PAD COMPUTER PROGRAM

The Ergonomics Program developed a pen-based computer program to assess video display terminal (VDT) workstation compliance with ISO requirements. The European (EU) community requires that all VDT workstations be individually assessed for compliance with ISO ergonomic VDT standards. All EU nationals employed by the U.S. Army and other DOD agencies involved in VDT work are included in this EU requirement. The requirement for individual ergonomic workstation assessments would be costly in terms of manpower and available expertise. Our palm pad computer program evaluates all of the critical workstation elements required by the ISO standard. The program allows minimally trained technicians to perform this assessment within 10 to 15 minutes. The final product is a computer-generated list of suggested workstation changes, a summary report of individual workstation changes, and an aggregate office summary report. The program significantly reduces the cost of compliance with the EU requirement while producing a high quality, customer-valued product. The program is currently being further adapted for use at CONUS Army facilities. POC: LTC Mary Lopez, DSN 584-3928, 410-671-3928, or 1-800-222-9698.

THERMAL TECHNOLOGY AND INSECT/PEST CONTROL

The Entomology Program is in the process of developing and evaluating novel procedures to control insect and weed pests commonly occurring on military installations without the use of polluting chemicals. Heat when applied under controlled conditions is lethal to most common biological systems and is economical. Where appropriate, the new thermal technology can be substituted for traditional chemical applications to control cockroaches in Government dining facilities, pests of

stored food products, and weeds on military installations. Our thermal trials in military dining facilities have shown that heat can be used safely and effectively for control of pesticide resistant German cockroach populations. Population reductions of 95 percent have occurred. In many instances, populations have remained below the threshold requiring residual pesticide application for 2 years following treatment. Thermal studies conducted in a temperature controlled environmental chamber have proven to be effective in controlling some stored product pests in pallets of troop issue commodities without destroying the quality of food. Current field trials evaluating the use of hot water as an alternative to herbicides show that many weed pests on military installations can be controlled with periodic applications. The development and use of heat as a pest control methodology will provide the military with pest control alternatives, thus assisting the military to meet the DOD's Measure of Merit for pesticide use reduction. POC: Dr. Edward Evans, DSN 584-3613, 410-671-3613, or 1-800-222-9598.

PESTICIDE USED REDUCTION ON DA GOLF COURSES

The prime objective in managing golf course turf is to establish and maintain a living plant cover with uniformity of color, leaf texture, and plant density which provide consistent playability and aesthetic enjoyment. To meet this objective golf course pest management programs are often dependent on the application of pesticides on both a preventive and curative basis. A DOD Directive has established the goal of reducing pesticide usage by 50 percent (from the FY 93 baseline) on all DOD installations by the end of FY 00. Golf courses are expected to contribute to this goal.



For the past four years, personnel from the Entomological Sciences Program (ESP) have evaluated golf course pest management practices through development of turfgrass management surveys and on-site pesticide monitoring consultations conducted for DA installations. The status of implementation of Integrated Pest Management (IPM) on golf courses has been assessed in written reports. These IPM reviews have helped determine if current management practices predispose the turf to pest problems and have served as a basis for recommendations developed to reduce pesticide use on turf. The needs of each golf course have been prioritized in order to optimize pest control operations both economically and ecologically. Multiple tactics (biological, cultural, regulatory, mechanical, and chemical) are then utilized to keep pest damage below the economic or aesthetic threshold level while minimizing hazards to humans or other nontarget organisms, and maximizing environmental quality.

During the February 1998 Golf Course Superintendents Association of America conference and trade show, our entomologists will serve as faculty for a 1-day seminar for military golf course superintendents. The focus for this seminar will be how to draft an individualized IPM blueprint using cost effective and ecologically sound turf management practices, employing a minimum amount of chemical pesticides. Personnel continue to serve on the Golf Course Management Subcommittee of the Natural Resources Committee of the Armed Forces Pest Management Board. POC: Dr. Edward Evans, DSN 584-3613, 410-671-3613, or 1-800-222-9698.

ARTIFICIAL BLOOD MEAL SYSTEM

The Entomological Sciences Program maintains an insectary in support of on-going projects. The standard procedure when rearing mosquitoes is to use live animals as a blood source for the mosquitoes. A blood meal is required for mosquitoes to produce eggs. Keeping live animals as a blood source is very expensive and has many regulatory requirements. We were able to purchase and successfully establish an artificial mosquito blood meal system. This artificial feeding system resulted in a savings of approximately \$4000 a year and also frees up space in our building which is now no longer needed to maintain a guinea pig colony (live animal blood source) in our laboratory. POC: Dr. Edward Evans, DSN 584-3613, 410-671-3613, or 1-800-222-9698.

SUPPORTING THE WORLD HEALTH ORGANIZATION (WHO)

The Laser/Optical Radiation Program has supported the INTERSUN Program of WHO over the past few years in its effort to examine the potential health risks from increased human exposure to the dangerous rays of ultraviolet (UV) in sunlight. Optical experts have served on expert task groups to examine the causative role of excessive exposure to sunlight in cataract and skin cancer. Last year, we sponsored a WHO task group meeting in Baltimore to develop better methods of public health education in this important area. WHO will soon issue a report prepared by that group which will assist public health authorities worldwide in preparing public awareness campaigns to help reduce outdoor UV exposure. The report will serve as a basis within the DA for health promotion efforts regarding UV exposures to soldiers when they train and during leisure time. POC: Dr. David Sliney, DSN 584-3932, 410-671-3932, or 1-800-222-9698.

LASER SAFETY INFORMATION SOURCE

The Laser/Optical Radiation Program has promoted the safe use of lasers for many years by maintaining a program of health hazard evaluations of equipment, fostering training and the development of safe lasers for the soldier. Its publications on laser safety have been in demand worldwide, and more recently, fact sheets which answer the most frequently-asked questions on safe laser use have been placed on our Web Page for ready access by the world community. In addition to laser hazards, the potential health hazards from other light sources and sunlight are addressed. POC: Dr. David Sliney, DSN 584-3932, 410-671-3932, or 1-800-222-9698.

OCCUPATIONAL HEALTH MANAGEMENT INFORMATION SYSTEM (OHMIS)

The OHMIS is an installation-level distributed data processing system. It supports occupational medicine, industrial hygiene, and hearing conservation programs, as required by Federal law and is deployed world-wide within the Army. The system also functions as a corporate level data repository and is updated by regular Army-wide industrial hygiene and hearing conservation data calls. OHMIS supports the Army's goals and objectives by sharing timely, accurate, and appropriate data and information; targets unit readiness during pre-deployment and post-deployment medical screening; identifies and facilitates reducing worksite health hazards (direct impact on readiness); and serves as the Federally-mandated (OSHA) inventory of workplace health hazards. The installation level systems support data collection and standardization functions as a decision support tool for local managers and provides access tools for installation level program evaluation. Consolidated data are maintained at the corporate level and used for Army-wide program

analysis, population exposure comparisons, trend analysis, and further development and refinement of policies, standards, and regulations within the Army's Occupational Health Program.

The OHMIS currently supports over 2000+ users at over 160 sites world-wide and is used in occupational health vehicles within the Army. It also supports the Army National Guard, Air Force (Hearing Evaluation Automated Registry System [HEARS]), Navy (HEARS), National Security Agency, Defense Mapping Agency, and the Corps of Engineers. Under development is the Defense Occupational Health Readiness System, based on the Army's OHMIS system, which will provide a standardized DOD occupational health system to support the Army, Navy, and Air Force preventive medicine professionals. POC: Mr. William Monk, DSN 584-2926, 410-671-2926, or 1-800-222-9698.

HEALTH PHYSICS INITIATIVES

The Industrial Health Physics Program provides state-of-the-art radiological health services to the Army and DOD components. Current initiatives include providing radiological health services to the Army and Defense Logistics Agency Base Realignment and Closure (BRAC) sites. Our BRAC initiatives provide Army property owners the assurance of a demonstrative, responsive, and timely tool to address radiological health concerns related to the transfer of Army property for public use. Other initiatives include the management of the Army self-identification program for Army Nuclear Regulatory Commission (NRC) licensee. This program provides the Army with an independent assessment of radiological health programs determined to be deficient by Federal regulatory agencies.

Other initiatives include programs such as museum radioactive artifacts restoration, Installation Relative Risk Assessment, and Army



Material Reutilization projects which all include environmental sampling to ensure public health and environmental compliance issues are addressed. Future initiatives include the creation of a consolidated, unified radiological health training network which promotes soldier training needs for the war fighters. This initiative provides Army field commanders with a training tool to comply with health, safety, environmental regulatory requirements, and public concern issues. POC: Mr. Harris Edge, DSN 584-3502, 410-671-3502, or 1-800-222-9698.

NUCLEAR/CHEMICAL FIELD SURVEY MANUAL

The Medical Health Physics Program, in conjunction with USACHPPM's Nuclear Biological and Chemical (NBC) Officer, is working to develop and field a Nuclear/Chemical Operational Field Survey Manual. This product will develop sample collection, sample data analysis procedures, and Health Risk Assessment (HRA) models and methodologies. These models will focus on medical impacts of health risks of exposure to naturally occurring, sometimes called background levels, nuclear and chemical risks, as well as develop procedures to address population HRAs at the unit level. These methodologies will be useful to the U.S. military when conducting peacekeeping operations in countries where the level of nuclear/chemical threats are unknown or undocumented. The standards for this methodology will meet U.S. occupational health requirements. POC: MAJ Gary Matcek, DSN 584-3548, 410-671-3548, or 1-800-222-9698.

HEALTH HAZARD ASSESSMENT OF ARMY MATERIEL

The U.S. Army's Health Hazard Assessment (HHA) Program defines and reinforces the Army's leadership commitment to fielding materiel systems that are free of uncontrolled health hazards. This strategy provides the framework for actions to ensure that health and human performance considerations are integrated into the life cycle management of materiel

systems. The HHA Program supports 17 service schools, 26 Training and Doctrine Command systems managers, 207 program managers, and 12 program executive officers. During FY 97, the Army's HHA Program completed 88 HHAs of acquisition materiel systems within the Army and DOD. These assessments evaluate auditory, oxygen deficiency, chemical, radiation, trauma, shock, vibration, biological, temperature extreme, and ergonomic health hazards for weapon and other materiel systems being brought into the military inventory and provide risks and recommendations back to materiel developers for hazard elimination. The assessments identified a total of 196 potential health hazards. Recommendations applied to eliminate these hazards will potentially avoid over \$13 million in medical costs and lost time. In addition, implementing assessment recommendations will potentially avoid over 16,000 lost work days. Health hazard assessors plan to perform about 100 more assessments in FY 98 on military acquisition systems such as the National Ballistic Missile Defense Program, the Crusader, and the U.S.U.K. Future Scout Cavalry System/Tracer. POC: MAJ Michael McDevitt, DSN 584-2925, 410-671-2925, or 1-800-222-9698.

COST AVOIDANCE MODEL DEVELOPED

The HHA Program developed a cost avoidance model to determine medical costs (such as hospitalization, clinic visits, rehabilitation, disability and mortality) and lost time costs associated with risks identified in conducting an assessment of potential occupational exposures from use of Army materiel under development. Each assessment provides the acquisition program manager a total breakdown of costs they will avoid by implementing our assessment recommendations. We also developed the capability to calculate lost workdays as a result of hazards and a cost effectiveness index for hazard abatement. During FY 97, we estimated a cost avoidance in excess of \$13 million if our recommendations were implemented. POC: MAJ Michael McDevitt, DSN 584-2925, 410-671-2925, or 1-800-222-9698.

Directorate of Environmental Health Engineering

SUPPORT TO GULF WAR ILLNESSES

The USACHPPM is currently supporting a number of investigations into the potential causes of the illnesses reported by veterans of the Gulf War. The investigations of troop exposures to oil fire emissions started in May 1991. A major objective was to assist various researchers involved in epidemiological studies of illnesses experienced by the Gulf War veterans, and to work with various DOD groups on completing the Persian Gulf Veterans Registry and Troop Movement Databases. To date, USACHPPM has worked collaboratively with the DOD's Deployment Surveillance Team on oil fire exposures and respiratory health effects; the Centers for Disease Control and Prevention and the University of Iowa on environmental exposures and health effects on Iowa veterans; and the Veterans Administration's Boston Environmental Hazards Group.

Another important surveillance initiative undertaken consisted of the collection of multiple pre- and post-deployment specimens of blood and urine to study health-related effects from troops' potential exposure to oil well fires. The studies, conducted in conjunction with CDC, have shown an absence of adverse health impacts. Since summer 1996, USACHPPM has been conducting analyses of potential modeled exposures to low levels of military chemical agents following the demolition of the Iraqi weapons storage depot in Khamisiyah in March 1991.

During the past several years, we have briefed the members of the Presidential Advisory Committee and the Government Accounting Office on a number of occasions. We continue to support the DOD Special Assistant to Gulf War Illnesses Investigation (SAGWI) in helping to find answers to questions surrounding the Gulf War Illnesses. As a result of the lessons learned from the Gulf War deployment, we established the Deployment Environmental Exposure Surveillance Program to prospectively address the issue of health risks facing the U.S. forces from environmental exposures during deployments. POC: Mr. John Resta, DSN 584-3651, 410-671-3651, or 1-800-222-9698.

DEPLOYMENT ENVIRONMENTAL EXPOSURE SURVEILLANCE PROGRAM (DEESP)

To assist deployed forces with their mission, USACHPPM formed the DEESP in July 1996 to serve as a single point of contact for deployment environmental issues. The mission of the DEESP is to develop a system capable of providing commanders environmental health threat information and countermeasures during and following a deployment and to integrate this information with medical outcome data. The overall intent is to prevent disease and non-battle injuries (DNBI) by allowing commanders and preventive medicine personnel to determine the most likely causes of DNBI and focus intervention efforts towards high risk areas under the overall Force Protection Strategy.

The DEESP is actively engaged in the environmental exposure monitoring conducted in Bosnia in support of Operation Joint Endeavor and currently underway in support of Operation Joint Guard. To date, environmental samples have been collected from all U.S. base camps in Bosnia and from several other International Forces camps in Bosnia, Croatia, and Hungary. This surveillance has been done by deployed military preventive medicine detachments, the 520th Theater Army Medical Laboratory, and USACHPPM personnel and is ongoing as needed by USACHPPM personnel deployed as theater assets in coordination with USACHPPM-Europe. The primary environmental media sampled included air, water, and soil. Sampling parameters included inorganics and organics, such as oxides of nitrogen, sulfur dioxide, particulate matter in air, dissolved solids in water, volatile and semi-volatile organic compounds, metals, pesticides, herbicides, and radiation. All concentrations are compared to U.S. Environmental Protection Agency standards or other applicable exposure standards. The monitoring to date has revealed a low potential for chronic, post-deployment health problems, and has created an extensive data set for any post-deployment environmental exposure evaluations. POC: Mr. John Resta, DSN 584-5244, 410-671-5244, or 1-800-222-9698.

COST SAVINGS/AVOIDANCE TO THE ARMY

The mission of the Ground Water and Solid Waste Program is to provide worldwide support of the Army's goal to protect health and environmental quality through restoration, compliance, and pollution prevention services designed to determine the existence, magnitude, and extent of soil and ground-water contamination and to evaluate solid waste management practices and facilities. The services provided over the last 2 years have resulted in a cost saving/avoidance to the U.S. Army of nearly \$13 million, in addition to ensuring safe and healthful conditions. POC: Mr. Wayne Fox, DSN 584-5199, 410-671-5199, or 1-800-222-9698.

SUPPORT TO PREVENTIVE DEFENSE

The USACHPPM is working with several DA/DOD organizations to provide support to the International Environmental Security Initiatives, under the concept of Preventive Defense that was initially advanced by former Secretary of Defense Perry and endorsed by Secretary of Defense Cohen. The objective is to show that environmental and occupational health are important factors in international stability and economic well-being, and that an organization such as USACHPPM can support the Preventive Defense (International Environmental

Security) initiatives by providing services that can contribute significantly to environmental quality and quality of life, which, in turn, can have impact on regional stability, lack of conflict, and world peace.

Recent examples of successful support of Preventive Defense are:

- Visits to the Ukraine in the Summer 1997 to meet with senior Armed Forces and civilian officials in the Ukraine to explore future collaborative efforts in areas of infectious disease, and environmental and occupational conditions and exposures during missile defueling and dismantlement procedures.

- Meetings with officials at the Indian Ministry of Defense in April 1997 to discuss collaborative efforts on environmental issues of mutual interest and benefit, such as Adverse Effects of Transportation Noise on Children.

- Visit to a number of facilities and installations in Hungary in February 1997 as a part of the Army Team that discussed a variety of environmental areas to include pollution prevention and environmental noise. POC: LTC(P) Kotu Phull, DSN 584-2306, 410-671-2306, or 1-800-222-9698.

SUPPORT TO ARMY'S RANGE XXI INITIATIVE

The U.S. Army is moving forward with an initiative to support installations with the tools, technologies, and management

practices to maintain ready, compliant, and realistic training ranges. The USACHPPM is an integral part of this important Army effort. Scientists and engineers are working closely with the U.S. Army Environmental Center in quantifying the actual emissions from the use of weapons and training ordnance used at the Army's firing and training ranges. Information on the fate and transport of the emission products has not been completely defined or quantified in the past. This effort will evaluate the fate and transport of emissions from a wide variety of Army weapons and training ordnance, ranging from small arms to artillery, as well as pyrotechnics, such as smoke grenades and flares. The data obtained from emission testing will be analyzed using complex computer modeling to determine the fate and transport of the emissions under a wide range of environmental and meteorological conditions. Results from the computer modeling will then be used to modify firing range design and operations to reduce the human and environmental health impact from firing and training ranges throughout the Army, thus allowing the Army the desired use of its ranges to ensure a ready and healthy force. POC: MAJ Jeff Springer, DSN 584-5242, 410-671-5242, or 1-800-222-9698.

MUNITIONS TEST RANGE ENVIRONMENTAL MANAGEMENT

The USACHPPM, in coordination with the U.S. Army Test and Evaluation Command (TECOM), initiated a munitions test range environmental management project at the TECOM test ranges at Aberdeen Proving Ground, Dugway Proving Ground, Jefferson Proving Ground, and Yuma Proving Ground. The goal is to characterize human and ecological health risks on and around the TECOM munitions test ranges, and to design an environmental management plan that will allow TECOM to comply with any future requirements resulting from the EPA Munitions Rule and the DOD Range Rule.

Our role is to implement, manage, and oversee the technical aspects of the project, and to assist TECOM in providing project direction, particularly with respect to policy and any involvement at the DA/DOD level. POC: Mr. Bill Fifty, DSN 584-1989, 410-671-1989, or 1-800-222-9698.

DA ENVIRONMENTAL COMPLIANCE ASSESSMENT SYSTEM (ECAS) PROGRAM

The ECAS Program is designed to determine the Army's compliance with environmental regulations at Army installations. Compliance is determined through multi-media assessments conducted onsite, which address 13 different compliance categories by inspection of facilities, records, permits, and other pertinent

documents. We have supported the DA ECAS Program since its inception in 1990, except for a period between FY 91 and FY 94 when the services were provided by a contractor. The varying degrees of expertise and experience among the contractors caused high variation in the quality of the assessments. With many contractors performing assessments, consistency in thoroughness and content was also lacking. In addition to the excellent quality and consistency provided by the experienced, matrixed teams of in-house scientists, engineers, and administrative personnel, USACHPPM has proven to be highly cost-effective in performing this service.

After conducting ECAS assessments at 52 U.S. Army installations at home and abroad, the USACHPPM has unequivocally demonstrated its ability to perform the ECAS surveys more efficiently and cost-effectively. USACHPPM also enjoys a unique perspective on the execution of the DA ECAS Program due to the experience obtained while implementing the DA Environmental Audit Program from 1985 to 1990, and while supporting the DA ECAS Quality Assurance Program during the initial years of the ECAS Program. We have consistently received excellent feedback from the MACOMs and installations on quality and consistency of assessments conducted. The MACOMs, whom USACHPPM supported during the second 3-year ECAS cycle, have returned with a request for support during the third 3-year (FY 98 - FY 00) cycle (ECAS III). The U.S. Army

Reserve Command has also requested our support during this period. Continued improvements to the ECAS program during ECAS III will include increased focus on Environmental Management Systems, integrated approaches to Pollution Prevention, and implementation of ISO 14000 auditing principles. POC: Mr. Ted Ruff, DSN 584-2509, 410-671-2509, or 1-800-222-9698.

SUPPORT TO MACOMs AND INSTALLATIONS

The USACHPPM has produced and disseminated a wide variety of Water Quality Information Papers to the MACOMs and installations. These papers are designed to provide detailed theoretical and practical information on a range of current and emerging drinking water issues. Topics of recent papers have included bacteriological monitoring of water systems, a health advisory for Cryptosporidium, guidance for complying with the requirements of the Safe Drinking Water Act, and water quality monitoring guidance for unregulated water systems. The feedback from the installation personnel suggests that these information papers



serve as the primary reference set for many installation drinking water professionals and water treatment operators within CONUS, thus allowing them to optimize drinking water quality and minimize waterborne health threats to consumers. POC: Mr. Pat Monahan, DSN 584-3919, 410-671-3919, or 1-800-222-9698.

U.S. ARMY KWAJALEIN ATOLL (USAKA)

Since 1977, we have provided a variety of services to USAKA that leases 11 islands from the Republic of Marshall Islands (RMI). The U.S. recognized RMI as a separate country under the 1986 Compact of Free Association. This led to the development of the USAKA Environmental Standards (UES), in which USACHPPM has and is continuing to play a key role. For example, we have conducted the compliance monitoring at USAKA since 1990 and provided extensive operational and treatment consultation for each of the four USAKA potable water systems, as well as non-potable water systems. Included in the support was the conduct of a comprehensive sanitary survey that identified numerous system and operational weaknesses, and assistance in updating portions of the UES. A USACHPPM-led ECAS survey at USAKA was a unique team effort with members from organizations, such as the EPA, and Fish and Wildlife. POC: Mr. Pat Monahan, DSN 584-

3919, 410-671-3919, or 1-800-222-9698.

INSTALLATION PREVENTIVE MEDICINE LABORATORIES

The USACHPPM continues to support installations by providing assistance/training consultations to preventive medicine water laboratories. Generally, the installation preventive medicine units perform bacteriological monitoring to help ensure safe installation water supplies. In some cases the laboratories are certified to perform the bacterial analyses to meet compliance requirements. Our recent consultations to Forts Benning, Gordon, and Polk have resulted in preventive medicine updates or changes to ensure optimum bacteriological analytical procedures. Additionally, due to our integral consultative support, the Fort Sill and U.S. Kwajalein Atoll laboratories have been able to attain, respectively, state and U.S. Environmental Protection Agency certifications. POC: Mr. John Brokaw, DSN 584-3919, 410-671-3919, or 1-800-222-9698.

SUPPORT TO U.S. FORCES KOREA (USFK)

The Water Supply Management Program is currently performing multi-phase evaluations at over 30 USFK installations to determine the

safety and acceptability of installation drinking water supplies, under the umbrella of our new Water System Performance Evaluation initiative. The evaluations have identified several potential water quality problems that could pose health threats to installation personnel. A prioritized list of recommendations is being provided to the USFK and each installation as succeeding project phases are completed to ensure that projects to reduce the greatest health risks are completed first. These services are available to other MACOMs and installations, as requested. POC: Ms. Jennifer Filippelli, DSN 584-3919, 410-671-3919, or 1-800-222-9698.

SUPPORT TO HOLSTON ARMY AMMUNITION PLANT (HSAAP)

The Ground Water and Solid Waste program was requested by HSAAP and the Industrial Operations Command in late May to develop an Environmental Baseline Survey (EBS) report of the plant properties. The purpose of the EBS is to document environmental conditions at an installation/facility and to evaluate the installation/facility for existing or potential environmental contamination that may be a threat to human health or the environment. The EBS report is an important document



that will support requirements in future real property transactions at HSAAP. This is the first time USACHPPM has been requested to perform an EBS of such a large military facility. Given the scope of performing an EBS at an industrial facility that consists of more than 6,000 acres and 425 buildings and a need to quickly complete the report, we organized a multidisciplinary team to assist in completing the EBS in a most timely manner with excellent customer satisfaction. POC: Mr. Wayne Fox, DSN 584-5199, 410-671-5199, or 1-800-222-9698.

HEALTH RISK ASSESSMENT AND RISK COMMUNICATION SUPPORT

The USACHPPM serves on behalf of The Army Surgeon General in conducting and/or approving the health risk assessments in support of the Army's Installation Restoration Program and other Army environmental programs and operations. Staffed with environmental engineers and scientists, health risk assessors and managers, regulatory experts, and other support personnel, USACHPPM also provides risk communication training and support at all levels of the Army and DOD. The beneficiaries include installation environmental staffs, public affairs offices, installation commanders, Restoration Advisory Boards (RABs), and DA/DOD staff. The members of the Environmental Health Risk Assessment and Risk Communications Program provide outstanding support to major Army/DOD programs, such as the Army Demilitarization Program and the implementation of the MOU between DOD and the Agency for Toxic Substances and Disease Registry (ATSDR).

Recent examples of support include health risk assessment and risk communication training to the Pine Bluff Arsenal personnel in handling issues associated with their demilitarization efforts, health risk assessments at Hawthorne Army Ammunition Plant that prepared personnel to negotiate with the regulators the amount of corrective work needed, and potential multi-million dollar cost saving/avoidance to

the Army as a result of our recommendations based on a site-specific study conducted at the Badger Army Ammunition Plant. POC: Mr. Dennis Druck, DSN 584-5207, 410-671-5207, or 1-800-222-9698.

NEW TRAINING COURSE FOR DA/DOD PERSONNEL

A new training course, Transport of Biomedical Material, enables DOD military and civilian personnel to become certified to package and ship biomedical material in support of national and international regulatory requirements. Added value is gained from the interaction of the tri-service students who share knowledge and experience while discussing key issues. Positive impacts include inter-service uniformity regarding training and procedures followed, economy of training effort and resources, diverse relevant experiences blended into one learning opportunity with wide networking potential, and a higher medical readiness level for both routine specimen shipments and contingency responses. POC: Ms. Linda Baetz, DSN 584-5234, 410-671-5234, or 1-800-222-9698.

SUPPORT TO OCONUS FACILITY CLOSURES

The Hazardous and Medical Waste Program performed destructive sampling of a number of OCONUS former hazardous waste storage facilities. The purpose of the sampling activities associated with closure of the storage facilities is to discern the presence of contaminants which may pose potential threats to human health and the environment. These threats to human health encompass exposures to future occupants and visitors to sites, as well as the possibility for contaminant migration which may expose personnel residing or working offsite. The results will allow the timely closure and destruction of the facility in accordance with Status of Forces Agreements and the Final Governing Standards. POC: Ms. Linda Baetz, DSN 584-5234, 410-671-5234, or 1-800-222-9698.

ARMY MEDICAL TREATMENT FACILITIES

The USACHPPM has been working with the U.S. Army Medical Command's Command Logistics Review Team (CLRT) as a team member to review waste management practices within the Army's medical treatment facilities. Because many of the same findings have resurfaced in subsequent audits over time, we decided to move towards a waste management program evaluation instead of a detailed compliance audit during the CLRTs. These evaluations have identified the root cause of the findings. The USACHPPM Direct Support Activities (DSAs) perform follow-up waste management assistance visits to correct any identified deficiencies. These assistance visits provide necessary training, documentation, and technical guidance to eliminate waste management findings and to document all corrective actions taken. We perform approximately 14 CLRTs and 15 waste management assistance visits per year. POC: Ms. Linda Baetz, DSN 584-5234, 410-671-5234, or 1-800-222-9698.

SUPPORT TO DEPLOYED PERSONNEL

The Ambient Air Quality Management Program conducts emergency and long-term ambient air sampling to assess inhalation health threats to deployed personnel and DOD assets around the world. Recent missions include air sampling in Bosnia to evaluate health threats to troops deployed for Operation Joint Endeavor and Operation Joint Guard; air sampling in Kuwait to supplement the Gulf War Illness database and to evaluate the potential relocation of Camp Doha; particulate sampling at Camp Zama, Japan to evaluate the impact of local refuse burning on ambient air exposures of installation personnel and dependents; air toxics sampling at Army and NATO bases to evaluate industrially-generated air pollution effects on stationed personnel and their dependents; and air sampling in Kuala Lumpur, Malaysia, in conjunction with the U.S. Environmental Protection Agency, to assess the impact of the fires in Indonesia on the quality of air in Malaysia. POC: Ms. Lisa Polyak, DSN 584-2509, 410-671-2509, or 1-800-222-9698.

SAMPLING METHODS FOR MILITARY-UNIQUE OPERATIONS

The Ambient Air Quality Management Program develops air sampling methods to support military unique operations which may produce air emissions. Recent examples include modification of a Federally-approved particulate sampling technique to evaluate toxicological properties of aerosolized fog oil used for obscurant training operations, and acquisition of solid rocket combustion exhaust samples for missile launches to evaluate long-term impacts to local environments. POC: Ms. Lisa Polyak, DSN 584-2509, 410-671-2509, or 1-800-222-9698.

CLEAN AIR ACT REQUIREMENTS

The Ambient Air Quality Management Program participates in a variety of compliance support services to help installations meet Congressionally-mandated health and environmental requirements. One of our most cost-effective services is the Air Emission Inventory (AEI). Almost every DOD installation must perform an emission inventory to meet Clean Air Act requirements. This program has performed AEIs at Army, Air Force and DOD installations for less than one-half the cost of an equivalent contractor-prepared product. POC: Ms. Lisa Polyak, DSN 584-2509, 410-671-2509, or 1-800-222-9698.

SUPPORT TO POLICY MAKERS

The Ambient Air Quality Management Program's experts provide technical support to policy makers worldwide to mitigate harm to human health and the environment, as well as to ensure the viability of the DOD mission. In the last year, we have provided support to the DOD Services Steering Committee for Implementation of the Clean Air Act, BRAC, National Environmental Policy Act Support Team, the U. S. Senate Armed Services Committee, the Assistant Secretary of the Army for Installations, Logistics, and Environment, and numerous other HQDA staff members. POC: Ms. Lisa Polyak, DSN 584-2509, 410-671-2509, or 1-800-222-9698.

RISK MANAGEMENT PLANS

The Air Pollution Source Management Program worked closely with the U.S. Army Environmental Center (AEC) in developing a technical guide for preparation of Risk Management Plans for installation use. The guidance has been applauded within DOD and private industry. These plans are required by Section 112(r) of the Clean Air Act Amendments. The intent of the rule is to minimize the catastrophic human health impact of a potential accidental release of certain toxic and flammable chemicals on the surrounding population and environment. Information to date indicates that many Army installations require Risk Management Plans as a result of the storage and use of significant (greater than 2500 lbs) quantities of chlorine for water treatment. As a follow-on service, we developed Risk Management Plans and prepared associated documentation for five major Army installations. We have built upon this expertise and will prepare plans for an additional dozen installations prior to the June 1999 compliance deadline. We also provide the QA/QC oversight required by AEC for those plans that are being prepared by contractors. POC: Dr. Dave Reed, DSN 584-8153, 410-671-8153, or 1-800-222-9698.

SUPPORT TO UNITED STATES MILITARY ACADEMY (USMA)

The Air Pollution Source Management Program conducted sampling at USMA to demonstrate that continuous emission monitoring for oxides of nitrogen was not necessary, and to support the Title V air permit. This

initiative saved the USMA the cost of a monitor estimated at approximately \$15,000. We also conducted tests of an opacity monitor as required by the State of New York. We prepared a quality assurance plan detailing the operation, reporting requirements, and maintenance schedule that was approved by the state. POC: Mr. Bob Wishart, DSN 584-8152, 410-671-8152, or 1-800-222-9698.

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT (EPCRA)

The EPCRA was designed to inform the public of hazardous substances located/released in their communities. The reporting is also used by emergency responders to plan for hazardous materials which can be present in the community. The Air Pollution Source Management Program assisted more than 30 Army installations in meeting new EPCRA requirements mandated by Executive Order 12856, dated August 1993. One of the key requirements of EPCRA is the preparation of an annual Toxic Release Inventory (TRI) that estimates the routine and emergency release of designated toxic chemicals. The CHPPM has prepared a number of TRIs and also prepared a guide for the preparation of a TRI. The guide assists installation personnel in the preparation of a TRI or in the oversight of contractors engaged by the installation for preparation of the TRI. As a QA/QC measure, the USACHPPM also evaluated TRIs submitted by installations across the Army to assure consistency in TRI preparation methodology. POC: Dr. Dave Reed, DSN 584-8153, 410-671-8153, or 1-800-222-9698.

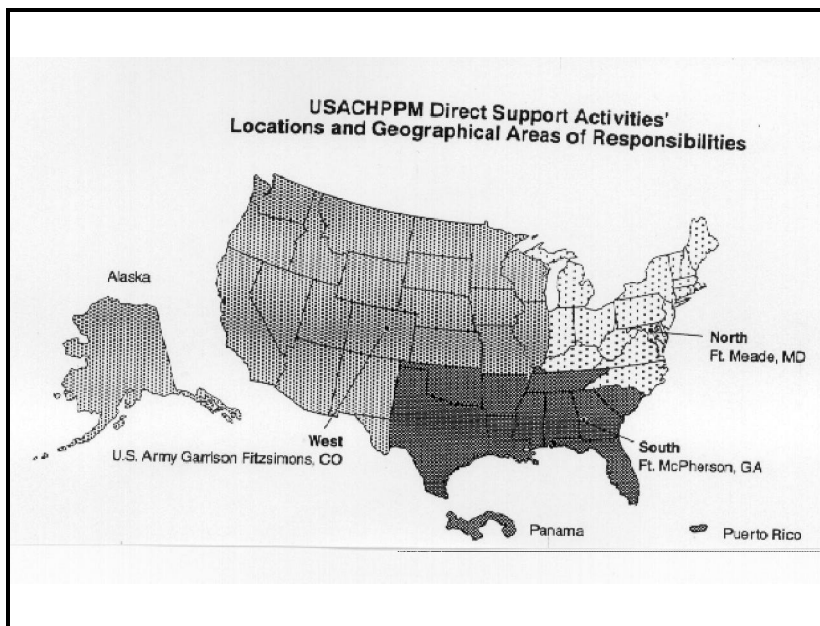
DOD/AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)

As Army Liaison to the ATSDR, we have provided invaluable support to Army installations. Two recent examples of such support are described below.

The Aviation and Troop Command's (ATCOM) move from St. Louis to Redstone Arsenal (RSA) was threatened by employee concerns over suspected contamination in one of the buildings. At the request of RSA, the State of Alabama (through a Memorandum of Understanding with ATSDR) performed a health consultation. The results demonstrated that the building did not present a health risk. The State of Alabama was able to categorically address all of the workers' concerns. ATSDR, the State of Alabama, and USACHPPM presented the results in meetings with the Missile Command and ATCOM management and at availability sessions for ATCOM workers.

A group of concerned citizens at the Milan Army Ammunition Depot (MAAP) intended to attend a Restoration Advisory Board (RAB) meeting to demand answers to perceived health concerns. In less than 30 days, USACHPPM organized a response team to aid MAAP at the RAB meeting. Through poster and availability sessions, the team was able to alleviate peoples' concerns. The concerned citizens' group left the RAB meeting completely satisfied with the responses to their concerns that were provided by the USACHPPM team. POC: Dr. Kathleen Buchi, DSN 584-4929, 410-671-4929, or 1-800-222-9698.

Direct Support Activities (DSAs)



The DSAs located at Fort George G. Meade, Maryland; Fort McPherson, Georgia; and U.S. Army Garrison Fitzsimons, Aurora, Colorado; provide area support to U.S. Army installations and activities. Consultations with U.S. Army National Guard, U.S. Army Reserve, and Active Army customers focus on

the coordination between such disciplines as safety, industrial hygiene, occupational health, sanitary engineering, and environmental programs in accomplishing Army missions while meeting health and environmental standards. Emphasis on joint review of design/construction/renovation plans ensures that safety, health and environmental issues are incorporated early, thus avoiding expensive retrofitting at a later date. Recommendations on practical, cost-effective modifications to ventilation systems such as increasing motor rpm, regular preventive maintenance, repair of damaged duct work, and proper balancing of systems has resulted in increased employee comfort, reduction in lost work days due to workplace discomfort, and general worker satisfaction with the work environment.

Fostering a working relationship between these activities has resulted in maximum identification of worker hazards and a multidisciplinary approach to problem solving and resolving those threats. POC: Ms. Deborah Contreras, DSN 923-6205, ext 225; or 301-677-6205, ext 225.

POLYMERASE CHAIN REACTION (PCR) LABORATORY

Microbial organisms have always posed a serious threat to deployed military forces. This threat has increased recently by the resurgence of previously controlled infectious diseases, and the potential for genetically altered microbes to be delivered by quick and inexpensive

techniques by enemy or terrorist forces. Prevention of widespread and devastating casualties from these threats is by early detection and accurate identification of the organisms prior to contact. Today's rapid deployment response requires immediate detection on-site.

Polymerase Chain Reaction (PCR), a method of amplifying DNA sequences unique to the organism, provides the least

expensive and quickest method for detection. This usually requires highly trained and experienced scientists in a well-equipped molecular biology laboratory. USACHPPM is working to develop a portable field PCR laboratory manned by military technicians to assess biological threats. Our applied Molecular Biology Laboratory has



developed and tested techniques for conducting PCR in the field during the last year. The FY 98 objective is to produce and test light weight portable PCR capability for processing and analyzing samples for the presence of targeted organisms and transmitting the data via satellite to a central headquarters. It is envisioned that this capability will provide commanders with an in-theater, real-time ability to assess disease threats in their areas of operation. The end result is better health protection for the soldier. POCs: LTC Brian Commons, DSN 943-3726 or 303-361-3726; and Dr. Edward Evans, DSN 584-3613, 410-671-3613, or 1-800-222-9698.

CHILD DEVELOPMENT PROGRAM INITIATIVES

In compliance with President Clinton's Executive Memorandum on Military Child Care Programs, DSA-North routinely assists HQ, U.S. Army Materiel Command and the Defense Logistics Agency on evaluation and modification of child care programs throughout the U.S. The purpose of this participation is to ensure that child care is provided in a healthy and safe environment, in appropriately constructed and maintained facilities that provide for the nurturing of the children. Constant efforts are made towards developing new criteria that allow Child Development Centers to continue to meet the needs of the population served while addressing the escalating costs of facilities construction and maintenance. The evaluations incorporate value engineering to determine if the methodologies or materials chosen are appropriate or if another suitable, but less expensive, means can be utilized to meet the same objective. In keeping with the President's memorandum, these efforts are being adapted to assist private child care organizations, and local and state governments in developing programs that benefit from the Army's lessons learned. POC: Mr. Sheff, DSN 923-6502, ext. 230; or 301-677-6502, ext 230.

WINTER PESTICIDE EQUIPMENT MAINTENANCE AND SPRING CALIBRATION

It is that season of the year where biting insects are no longer on our mind or our arms. However, we must plan for the insects that will come in 1998. It is time to do maintenance on pesticide sprayers. Maintenance now solves many common problems and avoids others.

Properly storing equipment for the winter is critical in avoiding a dead machine in the spring. Drain all pesticide, water and flushing agents from the system. The gas-powered equipment needs its oil changed and gas stabilizer added to the tank. Check the gas, air, oil, and pesticide in line filters and change or clean them as necessary. The pump mechanism needs to be full of hydraulic fluid with no pesticide or water present in the system; remember to purge it following the instructions. Re-oil the leather diaphragms on your hand sprayers. Many sprayers use an electrical system to control or drive the system. The things to check are: Is the battery disconnected? Are the battery terminals greased? Are the other electrical connections corroded? Are the wires frayed? You might want to clean or replace the spark plug for good measure now. Check the gauges; if they are hydraulic they may need replacement if there are air bubbles in them. Many systems use hydraulic or compressed air lines to operate them. Check for wear and make sure O-rings and flat washer seals are still good. Check the owner's manual for other specific instructions. If the manual was lost during the season now is the time to call the company and have them send another.

The companies that manufacture pesticide sprayers will have parts lists and exploding diagrams for your equipment. If you find a piece that is broken or aged, get the part number and reorder now as most orders take 6 weeks. Some parts are available from small engine repair or plumbing supply stores. However, it is wise to talk to the manufacturers to assure that the substituted parts are truly compatible.



You do not have to improvise now. Items that are manufacturer-specific and annual replacement items are the rubber baffles on some sprayer nozzles, corroded sprayer heads and nozzles, or plastic ones that are discolored and chalky. Watch Tyvex lines and other plastic lines for cloudiness and brittleness. Winter storage in cold sheds may cause breakage.

After you have rebuilt your machines and prepared them for the winter, remember that you have disrupted all of the calibrations. You will need to recalibrate them again next spring. To assist you with that effort, USACHPPM has simple procedures for calibrating your system. If you have an ultra low volume pesticide sprayer you will need our support to assure that the droplet size will meet manufacturer and EPA standards. We have developed a Droplet Sampling Kit that we will gladly send you to test your system. For those of you with the Beecomist Sprayer, we have a training video. This is especially important for the TOE Entomology Med Dets. We do on-site calibrations if difficulties are encountered. Call us for more information on USACHPPM's efforts to support TOE and installation pesticide equipment operations. Contacts are as follows:

DSA-South	MAJ E. Milstrey	DSN 367-2564
DSA-North	MAJ R. Johnson	DSN 923-6205 (EXT 250)
DSA-West	MAJ T. Walker	DSN 943-3817
USACHPPM-Europe	MAJ T. Logan	DSN 486-8540
USACHPPM-Pacific	LTC S. Berte	DSN 263-8446
USACHPPM-Main	Dr. E. Evans	DSN 584-3613

This article was written by MAJ E. Milstrey, DSN 367-2564 or (404) 464-2564.

ENHANCING WAR FIGHTERS' READINESS

The Preventive Medicine (PM) Readiness Division, DSA-North, improves the War Fighters' force protection and power projection capabilities. They provide and coordinate direct technical PM consultation, training, evaluation, and support to increase the mission capability and technical readiness of XVIIIth Airborne Corps and reserve component units and activities in their 18-state area of responsibility. Specific examples follow.

Conducted a week-long training exercise which included discussion of Army and Joint Staffs, military decision making and the estimate processes, staff coordination and planning from a PM perspective, health threat identification, PM countermeasures development and plan, medical surveillance, and development of a PM annex for operations. After the 2-day didactic session, DSA-North conducted a 2-day staff planning exercise, with participants developing health threats and PM plans for realistic, notional scenarios. Plans were briefed on the last day. Instructors included officers from the Joint Staff, Atlantic Command staff, and DSAs North and West. Participants included officers and NCOs from various units/activities in the XVIIIth Airborne Corps, U.S. Army Medical Command, Army National Guard, Army Reserve, and Naval Environmental Preventive Medicine Unit Nos. 2 and 5.

Coordinates PM support for the 28th ID, 29th ID, 804th MED Bde, 301st Areas Spt Gp, 475th QM Gp, and 416th CA Bn, to include health threat identification and countermeasure development, water/wastewater testing and evaluation, field industrial hygiene, equipment training, lead testing/abatement, health promotion and wellness programs, and entomology. This is an effort to ensure that the Reserve Component units receive an equitable share of USACHPPM support services. POC: CPT Mark Ireland, DSN 923-6502, ext 226, or 301-677-6502, ext 226.

U.S. ARMY RESERVE COMMAND (USARC)

DSA-South is working with USARC safety personnel to produce a plan for implementing Occupational Health and Industrial Hygiene Programs (OHIHPs). The OHIHP planning effort is tailored to the ISO 9001 quality management criteria which will be used to fulfill the agreements established in the 1995 U.S. Army Medical Command-USARC Memorandum of Understanding (MOU). Under this MOU, the Army Medical Department was tasked to provide health services support, including PM, to the U.S. Army Reserves (USAR). USARC recently identified occupational health as a critical deficiency within its command. DSA-South's efforts target an occupational exposure group-like approach to assessing

USAR facilities. This involves identifying industrial hygiene sampling strategies and defining medical surveillance requirements for those personnel potentially exposed to an occupational hazard. The objectives of the OHIHP are to define and target the specific population requiring medical surveillance, define the specific type of medical surveillance required so that USARC avoids costly generic surveillance, and reduce the current burden of environmental differential pay claims and occupation-related compensation costs currently affecting the USARC. POC: Dr. Albert Liabastre, DSN 367-2826, or 404-464-2826.

PM EXTERNAL TRAINING AND EVALUATION (EXEVAL) PACKAGE

The EXEVAL will provide early involvement and incorporation of PM training and evaluation of unit field exercises. The DSAs will assist the supported units in identifying the training objectives and goals for the exercise, and in evaluating their PM planning, practices, and operations. This service will typically be provided through the supported unit's Exercise Control Cell as PM and Operations Observer Controllers. This service will enable units to receive both an objective, external evaluation of their technical readiness, and supplemental technical training as needed. POC: CPT Mark Ireland, DSN 923-6502, or 301-677-6502, ext 226.

CAMPAIGN

(Continued from page 3)

Finally, the CHPPM campaign plan reflects increased involvement in international activities. Former Secretary of Defense Perry elaborated his concept of preventive defense in which the U.S. assists allies and potential allies establish those conditions which foster peace and stability. The foremost contributing condition is quality of life and the premier indicator of quality of life is health. The medical element is now recognized as a critical aspect of international military affairs. Our military health services personnel are viewed as ambassadors of goodwill, providing valuable information and services. Medical personnel support our national political and military strategies through increased involvement in international missions such as environmental security. The CHPPM has played a pivotal role in international assistance missions in the Ukraine and Hungary; our

expertise is sought across the globe. Through this continued involvement, the CHPPM will continue to facilitate foreign alliances and shape the international environment.

The command has achieved much in the past two years and this year's campaign plan builds upon those accomplishments. I, along with key leaders of the DOD and the Army, am proud of the CHPPM's performance. The command continually seeks out ways in which we can significantly contribute to a stable military, national and international environment. To achieve the goals set forth in the campaign plan will require the hard work, dedication and strong science which has made the CHPPM successful. With a vision to guide our efforts, I believe 1998 will prove to be a busy, exciting, and rewarding year for the CHPPM!



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